



BRIEFING PAPER

Number 4712, 17 December 2018

Petrol and diesel prices

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Unleaded
litre

128.9

Diesel
litre

137.1

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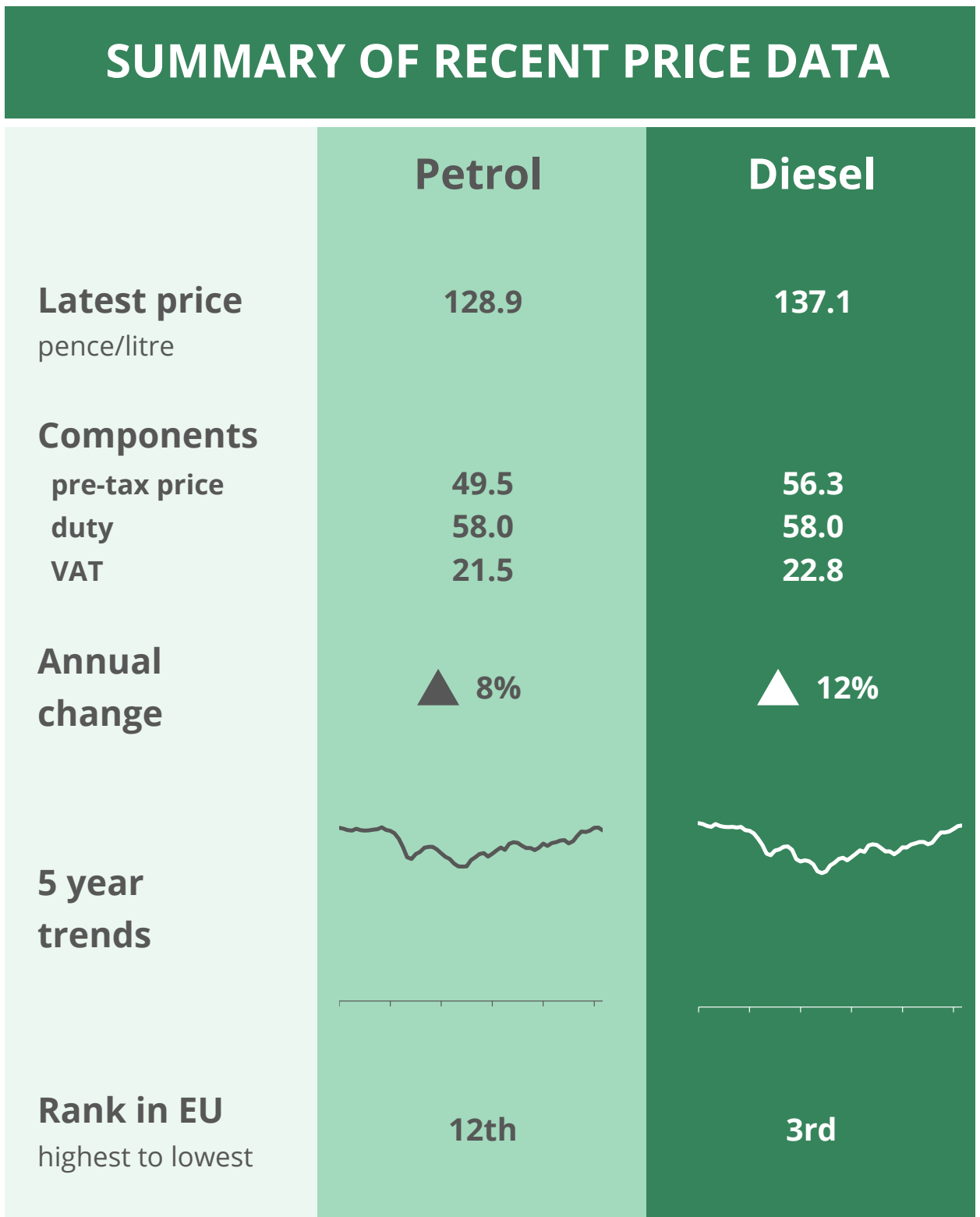
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Summary



4 Petrol and diesel prices

This note looks at trends in the price of petrol and diesel at the pump and before tax, possible reasons for the gap in prices between the two fuels and compares prices and taxes in different countries.

Trends in the pump and pre-tax price of road fuel and other petroleum products are given in DBEIS's [Collection of road fuel and other petroleum product price statistics](#) publication. The AA's [Fuel Price Reports](#) have daily national average prices. www.petrolprices.com gives daily average prices and local figures. The [Hydrocarbon Oils Bulletin](#) from HMRC includes details of changes in duty rates and revenues. The European Commission's [Oil Bulletin](#) gives a weekly comparison of pump and pre-tax prices of fuels across the EU. The International Energy Agency's [Monthly Oil Prices](#) shows trends in fuel prices for the largest OECD economies. Their [Oil Market Report](#) gives background to changes in oil and product prices.

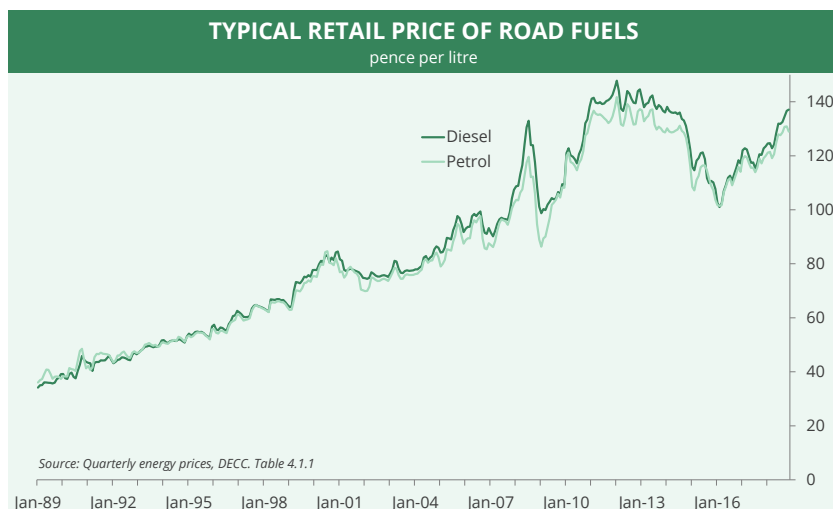
An appendix to this note looks at the real cost of petrol since 1920 and the real value of duty and VAT per litre. Prices in January 2012 were just above their earlier post second world war high in real terms -set during the Suez crisis- but still below the real prices charged in 1920 when petrol pumps were first introduced. The total tax on a litre of petrol peaked in early 2010; the latest figure is around over 27% below this peak.

1. Trends in pump prices

The appended Table 1 summarises monthly fuel price data from 1989 onwards. The chart opposite looks at trends in pump prices over this time. Trends for petrol and diesel were broadly similar over this period –differences are looked at in the next section.

1990s

While there were regular peaks and troughs, most of the 1990s was characterised by a consistent long term increase that averaged around 2.7 pence per litre each year.



Up to the summer 2008 peak

Prices increased at a faster rate in late 1999 and 2000 which led to the September 2000 fuel protests when petrol and diesel were an average of 80.2 and 82.3 pence per litre respectively. Prices subsequently fell back to around 75 pence per litre in 2002. The spike that immediately followed the invasion of Iraq was short lived; petrol and diesel prices were 76 and 78 pence per litre respectively at the end of 2003. Price spikes have tended to be sharper in recent years. Prices fell in early 2007 and February 2007 prices were broadly consistent with the long-term price rises seen in the 1990s. However, early 2008 saw the fastest period of price increases of recent decades and typical retail prices at mid-July 2008 were 119.4 pence per litre for petrol and 132.9 pence per litre for diesel.

To the Spring 2012 record levels

Prices fell back sharply over the second half of 2008, but, apart from summer 2010, have increased in nearly every subsequent month. The mid-May 2011 price of 136.7 pence for a litre of unleaded petrol was the highest cash price ever until the March 2012 figure of 137.9 pence per litre. The 141.5 pence for a litre of diesel in May 2011 was also a cash record. It was exceeded in February 2012 and again in March 2012 when the average price was 145.1 pence per litre. Both prices peaked in April 2012; 141.7 and 147.8 pence per litre for petrol and diesel respectively.

Spring 2012 onwards

Prices fell back slightly soon afterwards and remained broadly stable or slightly down over the rest of 2012 and much of 2013 and 2014. From late 2014 to early 2016 there was a sustained drop in prices, petrol and diesel prices fell to 101.4 and 101.2 pence per litre

respectively in March 2016; their lowest for seven years. Since spring 2016 prices have increased, other than in the first half of 2017, and have recently been at their highest levels for four years. Diesel reached 137.1 pence per litre and petrol 128.9 pence per litre in November.

The table opposite gives the latest weekly fuel prices. The latest data show a steady decline in prices of both fuels over the past six weeks

2. Trends in pre-tax prices

Table 1 also includes pre-tax price figures and these are illustrated opposite. This helps to identify the impact of duty increases and those of higher oil prices. Again there were numerous peaks and troughs, but the trend in pre-tax prices of both fuels was static or downwards for much of the 1990s. The increases shown in the first chart were driven by increases in duty – the so-called road fuel duty escalator.

It is also clear that much of the trend in pump prices was driven by changes in the pre-tax prices, rather than in fuel duty. The lows seen in early 1999 were 9.4 pence per litre for petrol and 9.3 pence per litre for diesel.

There were new record high pre-tax prices for both fuels in each month from December 2007 to July 2008, followed by sharp falls in late 2008. The April 2012 pre-tax price of petrol was 60.5 pence per litre; 18% above the July 2008 level. The pre-tax price of diesel marginally exceeded its July 2008 high when it reached 63.0 pence per litre in March 2012. It increased to 65.4 pence per litre in April 2012. Pre-tax prices were relatively stable for much of 2013.

The sharp fall to early 2016 are shown very clearly in the chart. Pre-tax prices of both fuels dipped below 30 pence per litre in early 2016.

RECENT AVERAGE UK FUEL PRICES

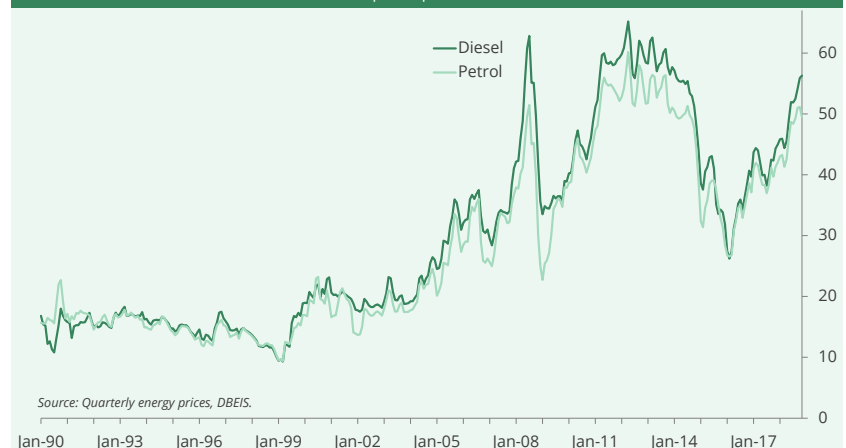
weekly prices in pence per litre

	Petrol	Diesel
05 Nov 2018	130.1	137.0
12 Nov 2018	128.9	137.1
19 Nov 2018	127.4	136.4
26 Nov 2018	125.8	135.4
03 Dec 2018	124.3	134.4
10 Dec 2018	122.4	132.5

Source: Weekly road fuel prices, DBEIS

PRE-TAX PRICE OF ROAD FUELS

pence per litre

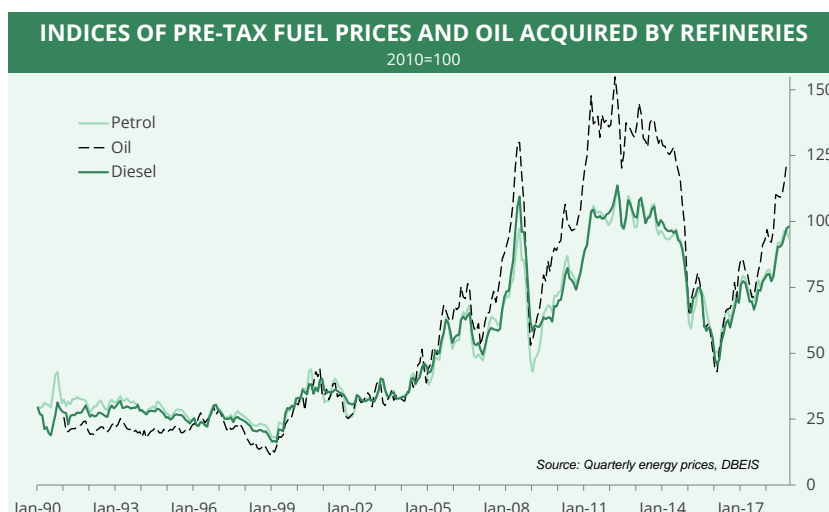


Source: Quarterly energy prices, DBEIS.

2.1 Oil prices

The chart opposite plots index values for oil prices and the pre-tax prices of road fuel. This shows a general close match in trends. Oil prices tend to be more volatile and road fuel prices tend to lag behind oil price trends.

Crude oil prices are not the only element of the pre-tax price which also includes refinery costs/profits, transport and marketing. The Government does not routinely publish data on the breakdown between these elements.



Why were late 2008 falls in oil prices not matched by falls in road fuel prices?

Headline oil prices fell from July 2008 for much of the rest of the year, but on first glance these falls have not been mirrored in petrol and diesel prices. The accusation is that oil companies and/or fuel retailers have not passed on these savings. There are a few alternative explanations which help to explain *some* of the variation in trends.

First, much of the retail price of these fuels is made up of duty. Variations in oil price affect the pre-tax portion only; therefore we would expect a smaller percentage change in retail prices.

Second, the US Dollar has become stronger since the decline in oil prices started. This means that the fall in oil prices when quoted in Sterling is smaller than the headline Dollar figures. Daily prices quoted in the press are usually the forward month price –the price for delivery of oil in the following month. Therefore we might expect some lag between falls in daily oil prices and price cuts on the forecourt. Timing can be particularly important with the high level of price volatility seen recently.

The OFT report [UK petrol and diesel sector. An OFT Call for Information](#) looked in general terms at claims that forecourt prices rise more rapidly following a wholesale price rise than they do after a wholesale price fall; co-called rocket and feather pricing where prices are said to rise like a rocket but fall like a feather. In summary the report said:¹

Our analysis of the relationship between retail and wholesale prices at a national, local area and site level, as well as the relationship between crude oil prices and wholesale prices at a

¹ *UK petrol and diesel sector. An OFT Call for Information*, OFT January 2013. paras 1.19-1.21

national level, found very limited evidence of rocket and feather pricing. This result is consistent with evidence that we gathered from market participants, which suggests that rocket and feather pricing is unlikely to occur.

Our econometric analysis sought to identify the speed with which changes in upstream prices changes are passed through the supply chain and then test whether upstream price increases are passed through more quickly than price decreases. If the speed of pass through is faster for a price increase than for a decrease, then rocket and feather pricing is found to occur. We used data covering the period January 2000 to August 2012 for the national analysis and the period November 2011 to October 2012 for the local area and site level analysis.

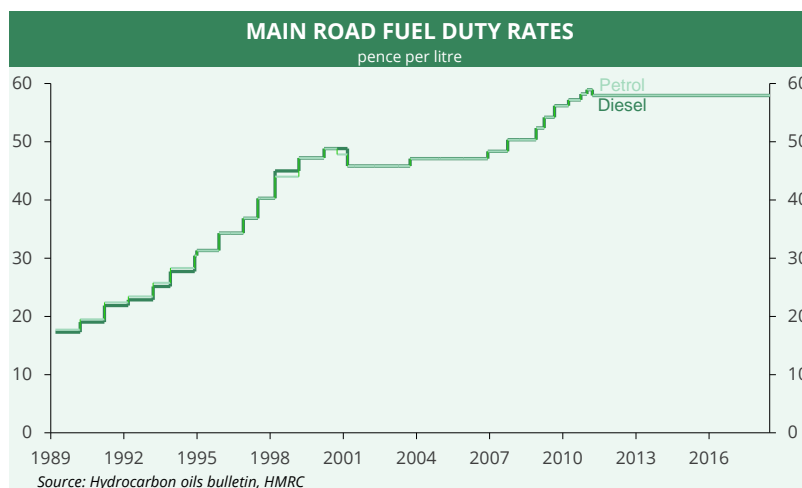
While our overall findings for local areas are consistent with the national and site level analysis, there were a few instances where the speed of pass-through was statistically significantly different for price rises compared with price falls. However, we do not put much weight on these instances because, among the small number of areas where some evidence of asymmetry was found for petrol prices, no area displayed a consistent pattern of different pass-through speed. Similarly, for the small number of areas where we found asymmetry for diesel prices, no area displayed a consistent pattern of different pass-through speed and the limited evidence of asymmetry that we did find was consistent with prices that 'feather' up and 'rocket' down.

3. Tax

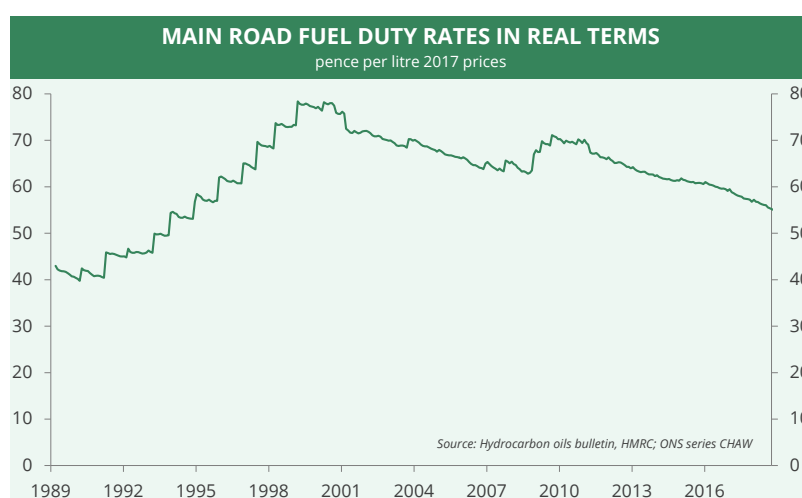
The data in Table 1 show how the total tax take from road fuel has change over time. Falling fuel prices and the fuel duty escalator saw the tax take rise during much of the 1990s to a peak of 86% in early 1999. The relatively small increases in duty between 2001 and 2008 and higher oil prices saw the tax take fall to 57% (petrol) and 53% (diesel) in July 2008. Both rates increased as prices fell in late 2008 and early 2009; petrol to 74% and diesel to 66%.

Since then the tax take fell to just over 50% when prices peaked in spring 2012 and increased to around 75% in the early 2016. The latest tax take in August 2018 was 62% for petrol and 60% for diesel.

Changes in duty rates in cash terms are given in the first chart opposite. Again this clearly illustrates the increases during the 1990s due to the operation of the road fuel duty escalator. VAT is levied on the post-duty price and hence on the duty and the pre-tax price. Duty rates on each fuel have been identical or very close for the period shown so any difference in total VAT per litre is connected to the pre-tax price.



Duty rates were cut or frozen for around six years from early 2000 and from March 2011 onwards. The second chart opposite plots the rate for petrol in real terms. It shows a gradual cut in the real rate of duty from 2000 to late 2008. By autumn 2008 duty was lower than it had been in real terms since autumn 1996. Subsequent duty increases and lower/negative levels of



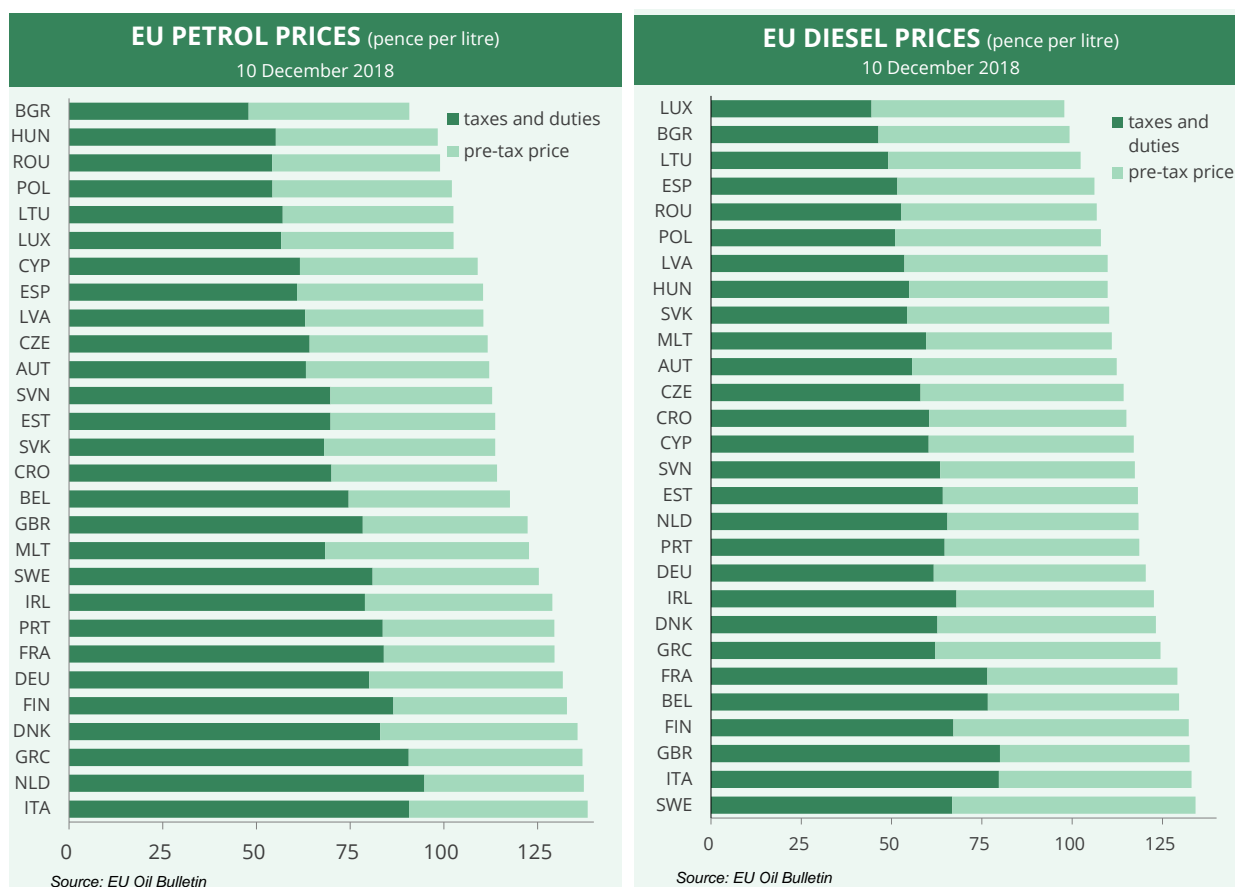
inflation caused a sharp rise in the real duty rate in 2009. Duty increases in 2010 and January 2011 were nearly matched by higher inflation, so the real level remained broadly constant. The Budget 2011 duty cut took real rates down to early-2009 levels and the subsequent freezing of duty has meant its real value is currently the lowest since November 1994.

Pre-tax price increases add to the VAT on a litre of fuel. The VAT rate was cut from 17.5% to 15% (in response to the financial crisis) at the end of 2008, raised back to 17.5% at the start of 2010 and increased to 20% from the start of 2011.

The real value of the *total* tax on a litre of petrol fell by around one-sixth between summer 2000 and summer 2007. Increases in duty, VAT and the pre-tax price (hence VAT again) saw the real value of the tax take peak in late 2010. The duty cut, subsequent freeze and generally lower pre-tax prices have all contributed to a drop in the real value of tax on a litre of fuel. In October 2018 it was around 27% below this peak.

4. International comparisons

Table 2 at the end of this note compares diesel and petrol prices and taxes for all EU member states. The charts below illustrate this information for mid-December 2018.



The UK's petrol price on 10 December 2018 was the 12th highest in the EU. Over the past two decades the UK has moved down this list from first place as rates of duty have increased in other member states, rising oil prices have shifted the balance from taxes to the pre-tax price and the value of Sterling has been generally weaker against the Euro. During much of 2015 the UK moved back up this list and once again had the highest prices (at times) in late 2015. This was in large part due to the relative weakness of the Euro. Since then the stronger Euro/weaker Pound, especially since the Brexit vote, have pushed the UK's ranking to one of the lowest for many years.

The UK's diesel prices were the 3rd most expensive in the EU on 10 December 2018. The price of diesel in the UK was clearly the highest in the EU for many years, but the gap to the next highest countries fell substantially over time—again due to duty increases elsewhere, higher pre-tax prices and exchange rate movements. The *Social Indicators* article [Road Fuel Prices and Taxes Across the EU](#) gives much more background on the subject. Appendix II to this note extends the EU time series data.

UK diesel duty rates are still higher than elsewhere in the EU. The chart opposite gives recent duty rates for the EU27. The UK's duty rate on petrol was eighth highest, it had been the highest for some years, but changes in the exchange rate and increased duty rates elsewhere have altered the situation. Differences in diesel duty rates are clearer. Every other member state had lower duty rates for diesel; the diesel 'discount' was 30% or more in some countries. The result was that the diesel duty rate in the UK was 2.3 pence per litre (4%) higher than any in any other EU country and 18 pence (44%) above the simple (unweighted) average for the other 27 members. Higher VAT rates in most other EU countries mean that differences in total tax on a litre of fuel are somewhat smaller.



October 2018 petrol prices for the largest OECD economies² varied (in \$US) from \$1.90 in Italy to \$0.76 in the US. Diesel prices were also highest in Italy at \$1.79 and lowest in the US at \$0.89. Pre-tax prices varied between countries by around \$0.17 per litre for petrol and \$0.11 per litre for diesel.³

² USA, UK, Japan, Germany, Italy, France, Spain and Canada

³ *Oil Market Report November 2018*, IEA

5. Reference Tables

Table 1

BREAKDOWN OF TYPICAL UK ROAD FUEL PRICES

pence per litre

	Premium unleaded petrol			Diesel		
	retail	pre-tax	% tax take	retail	pre-tax	% tax take
Jan 1990	38.4	15.7	59%	39.2	16.8	57%
Jan 1991	42.1	17.2	59%	43.3	15.8	64%
Jan 1992	43.4	14.6	66%	43.2	14.9	66%
Jan 1993	47.1	16.7	65%	47.1	17.2	63%
Jan 1994	50.8	14.9	71%	51.7	16.3	68%
Jan 1995	53.4	14.2	74%	54.1	14.8	73%
Jan 1996	55.9	13.3	76%	57.4	14.6	75%
Jan 1997	61.1	15.1	75%	62.0	15.9	74%
Jan 1998	63.1	13.5	79%	63.3	13.6	78%
Jan 1999	62.9	9.5	85%	64.0	9.4	85%
Jan 2000	75.4	16.9	78%	77.8	19.0	76%
Jan 2001	76.9	16.6	78%	81.6	20.7	75%
Jan 2002	69.9	13.7	80%	74.7	17.7	76%
Jan 2003	75.0	18.0	76%	76.4	19.2	75%
Jan 2004	76.2	17.8	77%	77.9	19.2	75%
Jan 2005	79.0	20.1	75%	84.2	24.5	71%
Jan 2006	88.8	28.5	68%	93.1	32.1	66%
Jan 2007	86.9	25.6	71%	91.4	29.5	68%
Jan 2008	103.7	37.9	63%	108.7	42.2	61%
Jan 2009	86.3	22.7	74%	98.7	33.5	66%
Jan 2010	119.8	38.7	68%	121.0	40.2	67%
Jan 2011	134.7	47.3	65%	141.1	51.1	64%
Jan 2012	141.7	52.8	63%	147.8	59.8	60%
Jan 2013	136.8	51.8	62%	141.3	58.3	59%
Jan 2014	130.2	50.5	61%	138.1	57.1	59%
Jan 2015	108.4	32.4	70%	115.8	38.6	67%
Jan 2016	101.7	26.8	74%	102.5	27.5	73%
Jan 2017	118.7	41.0	65%	122.0	43.7	64%
Jan 2018	121.2	43.0	64%	124.6	45.8	63%
Jun 2018	127.9	48.7	62%	131.9	51.9	61%
Jul 2018	127.6	48.4	62%	131.8	51.9	61%
Aug 2018	128.6	49.2	62%	132.5	52.5	60%
Sep 2018	130.8	51.0	61%	134.5	54.1	60%
Oct 2018	130.9	51.1	61%	136.6	55.9	59%
Nov 2018	128.9	49.5	62%	137.1	56.3	59%

Source: Quarterly energy prices, DBEIS Table 4.1.1

Table 2

AVERAGE PETROL AND DIESEL PRICES AND TAXES IN EU MEMBER STATES

10 December 2018

	Petrol				Diesel			
	Pump price	Taxes and duties		Pre-tax price	Pump price	Taxes and duties		Pre-tax price
		% of pump				% of pump		
	per litre	per litre	price	per litre	per litre	per litre	price	per litre
BEL	£1.18	£0.75	63%	£0.43	£1.30	£0.77	59%	£0.53
BGR	£0.91	£0.48	53%	£0.43	£0.99	£0.46	47%	£0.53
CYP	£1.09	£0.62	57%	£0.47	£1.17	£0.60	51%	£0.57
CZE	£1.12	£0.64	57%	£0.48	£1.14	£0.58	51%	£0.56
DNK	£1.36	£0.83	61%	£0.53	£1.23	£0.63	51%	£0.61
DEU	£1.32	£0.80	61%	£0.52	£1.20	£0.62	51%	£0.59
GRC	£1.37	£0.91	66%	£0.46	£1.24	£0.62	50%	£0.62
ESP	£1.10	£0.61	55%	£0.50	£1.06	£0.52	49%	£0.55
EST	£1.14	£0.70	61%	£0.44	£1.18	£0.64	54%	£0.54
FRA	£1.30	£0.84	65%	£0.46	£1.29	£0.77	59%	£0.53
HUN	£0.98	£0.55	56%	£0.43	£1.10	£0.55	50%	£0.55
IRL	£1.29	£0.79	61%	£0.50	£1.23	£0.68	55%	£0.55
ITA	£1.38	£0.91	66%	£0.48	£1.33	£0.80	60%	£0.53
LVA	£1.11	£0.63	57%	£0.48	£1.10	£0.54	49%	£0.56
LTU	£1.03	£0.57	56%	£0.46	£1.02	£0.49	48%	£0.53
LUX	£1.03	£0.57	55%	£0.46	£0.98	£0.44	45%	£0.53
MLT	£1.23	£0.68	56%	£0.54	£1.11	£0.60	54%	£0.51
NLD	£1.37	£0.95	69%	£0.43	£1.18	£0.65	55%	£0.53
AUT	£1.12	£0.63	56%	£0.49	£1.12	£0.56	50%	£0.57
POL	£1.02	£0.54	53%	£0.48	£1.08	£0.51	47%	£0.57
PRT	£1.30	£0.84	65%	£0.46	£1.19	£0.65	55%	£0.54
ROU	£0.99	£0.54	55%	£0.45	£1.07	£0.53	49%	£0.54
SVK	£1.14	£0.68	60%	£0.46	£1.10	£0.54	49%	£0.56
SVN	£1.13	£0.70	62%	£0.43	£1.17	£0.63	54%	£0.54
FIN	£1.33	£0.87	65%	£0.46	£1.32	£0.67	51%	£0.65
SWE	£1.25	£0.81	65%	£0.44	£1.34	£0.67	50%	£0.67
GBR	£1.22	£0.78	64%	£0.44	£1.33	£0.80	60%	£0.52

Notes:

Prices converted to sterling on basis of exchange rates on date listed

Comparisons between countries require care because of differences in product quality, marketing practices, market structure sales of other types of fuel.

Petrol prices are for super unleaded petrol (Euro super 95)

Source: *EU Oil Bulletin*

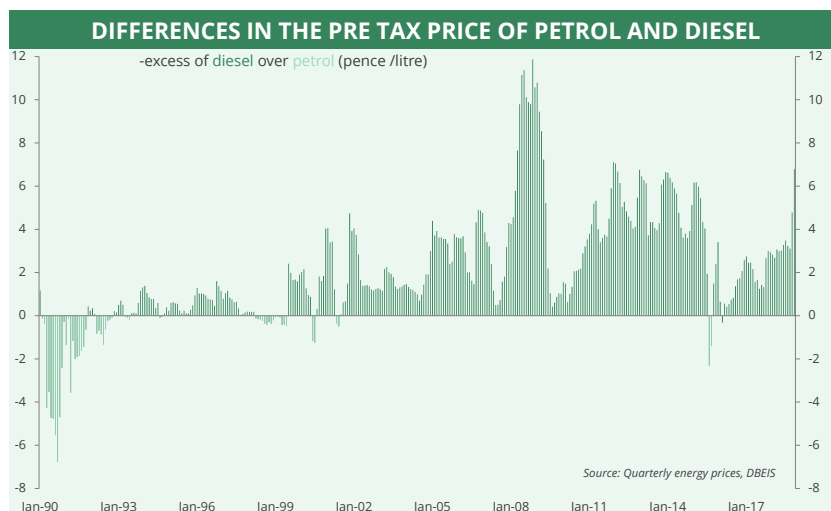
Appendix I -Petrol v diesel prices

The current duty on diesel (57.95 pence per litre) is exactly the same as that on petrol. Duty rates have been the same for the large majority of the last 25 years.⁴ Therefore the difference in price is not due to tax, but is down to the difference in pre-tax prices. A number of factors have pushed up the relative price of diesel over time, the most important of which are thought to be the long term increase in demand for diesel and limited refining capacity. The price gap has varied over time; it virtually disappeared during much of 2009 and petrol was more expensive than diesel for a few months in summer 2015 and early 2016.

The earlier charts show that the underlying cost of diesel was less than petrol in the early 1990s. It routinely became more expensive from 1999 onwards and until recently the gap had generally increased since. There is also some evidence in the large price variations since 2001 that compared to petrol, diesel prices are 'sticky downwards' –when prices fall they do not fall as much as those of petrol. This will be in part due to the fact that the underlying increase in diesel prices has been greater, but also due to diesel's seasonal fluctuations this may also in part be because many of the large petrol price falls have been in the winter months, when diesel prices tend to increase (relatively).

The chart opposite plots monthly price differentials since January 1990. This helps to illustrate the increase in the scale of the price gap up to 2008. It also shows a seasonal pattern in some years, especially 2011 to 2015. Diesel is a gasoil produced from the same distillate of crude oil as heating oil. Therefore in the colder months when heating oil demand increases there is greater demand for this

product of the distillation process and price responds to the increase in demand.⁵ The seasonal pattern appears to have become stronger and/or clearer since 2010. The seasonal pattern in price gaps can also be affected by the increased demand for petrol, in North America particularly, during the 'summer driving season'.



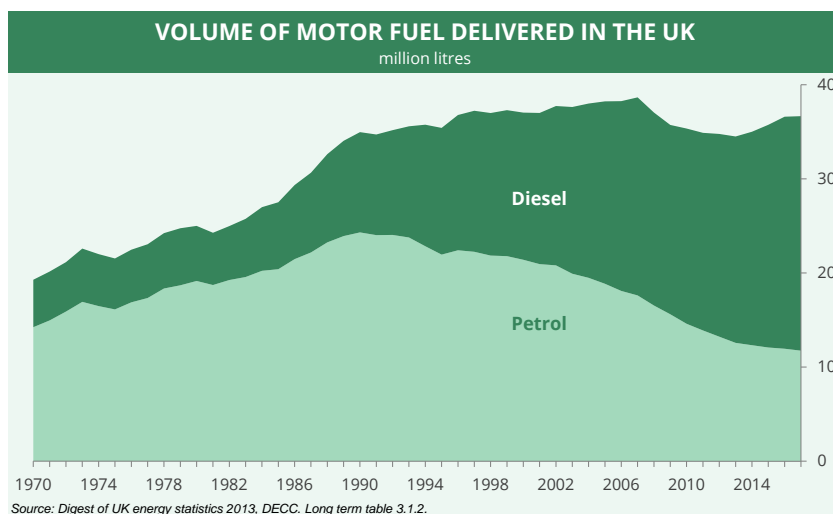
⁴ *Hydrocarbon oils bulletin December*, HMRC

⁵ The IEA has recently said that the impact of cold spells on OECD heating oil demand are often overstated and they are in fact declining over time. *Oil Market Report November 2011*, OECD

The April to July 2008 price gaps increased when the past seasonal pattern suggested a fall. Seasonal patterns can only explain a small part of the increase in the price to 2008.

Diverging trends in demand

Overall trends in road fuel use help to explain at least some of the relative price changes shown above. In the UK petrol consumption⁶ fell in each year between 1998 and 2017, while diesel consumption increased in each year other than 2008 and 2009. The total drop in petrol consumption since 1998 was 46%, while diesel consumption rose by 65%.⁷ Trends are illustrated in the chart opposite. Diesel became more popular than petrol in 2005. In the early 1970s petrol consumption was three times greater than diesel consumption.



Diesel/heating oil demand has been increasing at a faster rate than petrol demand over the last two decades across Europe and the world as a whole.⁸ Prices will have responded to these changes in demand (diesel up, petrol down, relative to what they would have been with constant demand) and the patterns shown earlier are consistent with this. The International Energy Agency has said in the past that 'preferential diesel taxes' in Europe have helped to increase the demand for diesel.⁹

The US Energy Information Administration has cited the worldwide increased demand for diesel and other distillate fuels putting pressure on tight global refining capacity as the primary reason for the higher price of diesel.¹⁰

Impact at the refinery during peak prices

Increased demand and limited supply is reflected in refinery margins – the difference between the cost of a barrel of refined product and the cost of crude. This is where there large majority of the price differential occurs. In spring 2008 the average margin in North West Europe for ultra low sulphur diesel peaked at just over \$40 per barrel¹¹, compared around \$5 per barrel for ultra low sulphur petrol.¹² This gap represents a price differential of just over 11 pence per litre (around 13 pence per

⁶ Total quantity released for consumption

⁷ Digest of UK energy statistics 2018, DBEIS

⁸ Oil information 2017, IEA

⁹ Oil Market Report November 2011, IEA

¹⁰ Diesel Fuel Prices: What Consumers Should Know, EIA

¹¹ The difference between the price of a barrel of refined product and crude oil – 'cracks to benchmark crude'

¹² Oil market report July 2008, IEA

litre after VAT), although margins are volatile and the resulting gap varies daily. The refinery margin for diesel hit a number of new record levels in spring and early summer 2008 and the differential was counter to the 'normal' seasonal pattern which would see a fall from March/April.

The International Energy Agency has said that longer term increases in demand from Europe and across the world (China especially) left Europe 'structurally short' of diesel and gasoil and hence refinery margins increased. Increasing demand for diesel was one of the key demand factors that resulted in higher oil prices. Europe was importing diesel from elsewhere, but this has had little impact on prices. Falling demand for petrol had left stocks high and has a downward impact on its refinery margins. Even in the US, where petrol demand was normally buoyant in the summer, petrol margins fell due to underlying lower demand and an increase in ethanol in blends.¹³

Wide refinery margins are not simply higher refinery operating costs,¹⁴ but an obvious way in which higher diesel demand, limited flexibility of supply and relatively low petrol demand feed through to price differentials.

Why don't refineries simply produce more of the fuel in most demand?

Oil refining produces a range of different petroleum products. If refineries are to respond to high prices and increase their output of diesel/heating oil then output of the less profitable products has to increase as well. This would further reduce the price/profitability of the lesser demanded products such as heavy fuel oils. Therefore, in such a situation, to increase the overall refining margin by a relatively small amount the margins for the individual in-demand products need to increase by a much larger amount. These feed through to consumer prices and, in this case, increase the gap between diesel and petrol prices. Economic theory would suggest that in competitive markets the underlying changes in demand for different fuels would send price signals to (potential) suppliers. The resulting shifts in supply would reduce the price differentials. However, as explained above, the supply of all petroleum products is closely linked; refineries cannot just leave the fuel oil market or enter the diesel market only. Thus price differentials persist and grow.

According to the UK Petroleum Industry Association (UKPIA) refineries in the UK are configured to meet historical patterns of demand which maximised petrol and heavy fuel oil. The change in petrol/diesel demand was mentioned earlier. The demand for jet fuel also increased strongly over time. The major fall in demand over the past few decades has been in fuel oil which itself was largely due to the decline in heavy industry and its replacement by natural gas for heating and power

¹³ *ibid.*

¹⁴ The switch to lower sulphur content diesel (from 1997 onwards) will have increased diesel refining costs although refining costs for 'basic' diesel were lower than those for petrol.

generation. Some of the surplus fuel oil has been further refined to increase petrol and diesel output. The output of UK refineries does not match UK demand and hence the UK imports diesel (mainly from Russia) and jet fuel (mainly from the Middle East) and exports petrol and fuel oil. According to the UKPIA 'changing refinery production to meet demand will require major investment'. They also cite research which predicts that past patterns (greater diesel and jet fuel demand and lower petrol demand) will continue and be exacerbated by increased biofuel production and lower international sulphur limits on shipping from 2020 which will cause a shift from fuel oil to gas oil.¹⁵

¹⁵ *Statistical review 2008*, UKPIA

Appendix II –Historical pump prices

The first hand operated petrol pumps were introduced in Britain in 1920. Before then petrol had been sold in cans. In the subsequent 90 years there have been numerous changes in the quality/grade of petrol, its lead and sulphur content and how its price and distribution has been controlled. This note does not attempt to describe these changes. If readers are interested in changes in the retail market up to the mid-1960s they should look at [Petrol: A Report on the Supply of Petrol to Retailers in the United Kingdom](#) which was produced by the Monopolies Commission in 1965. Chapter 2 gives a description of the retail petrol market up to that time.

Some of the major events and changes which affected petrol prices and sales are listed below:¹⁶

- January 1921 -removal of the consumer tax on petrol
- April 1928 –duty imposed on petrol
- September 1939 –Petroleum Board made up of UK suppliers became an executive body working under Government direction. A single grade of petrol sold and rationing introduced.
- 1948 –Petroleum Board ends, new zonal price system introduced and fixed prices become maximum prices.
- May 1950 –rationing ends
- February 1953 –branded petrol returns and is sold in two grades
- December 1956 –Suez crises leads to rationing (to May 1957) and 40% increase in duty (reduced in April 1957)
- 1967 –star grading of petrol introduced
- April to December 1974 –First ‘Oil Shock’ leads to maximum prices for petrol set by regulation.
- 1974 –VAT introduced at 10%, later increased to a higher rate of 25% (to April 1976)
- March 1989 – unleaded/leaded duty differential increased to 2.7 pence per litre (15%)
- 1993 –road fuel duty escalator introduced
- September 2000 –high duty/prices lead to protests, blockades of some refineries and widespread shortages.
- November 2000 –cut in fuel duty and end of the escalator announced
- August 2008 –record oil prices lead to pump prices peaking at 120 pence per litre.
- Late 2010/early 2011– start of the ‘Arab Spring’- political unrest in the Middle East adds to underlying increase in oil prices. These combine with the relatively weak value of Sterling, increases in duty and VAT to give new record high cash prices in each of the first five months of 2011. Increasing tension between Iran and the West pushes up prices in early 2012.

¹⁶ *UK petrol prices (1902-2002) and diesel prices (1889-2002)*, Energy Institute; [Petrol: A Report on the Supply of Petrol to Retailers in the United Kingdom](#); Monopolies Commission 1965

The charts later on in this section and the table at the end illustrate changes in the retail price of a litre of petrol since 1920 and changes in its taxation. Prices were not allowed to freely float and reflect market conditions for much of the early part of this period. They were either set by agreement between petrol suppliers and retailers or, occasionally, set by the Government. Prices were managed and price changes were relatively infrequent. The figures given in the charts and tables are meant to give a general impression over time, not a precise guide.

The data are for occasional times (general changes in prices or taxes) up to 1973, quarterly or more frequent to 1988 and monthly thereafter. Prices have been adjusted to 2017 levels using single annual inflation estimates before 1948. This introduces a further element of imprecision, especially when prices were rapidly changing in the early 1920s.

Retail price trends

The first chart on the following page gives real price trends for different grades of petrol from 1920 onwards. These are set alongside some of the major events related to petrol prices and sales.

January 2012 prices were higher than the 2008 peak in real terms and above the peak which followed the lifting of price in 1974/75. They were also very slightly above the peak during the Suez crisis. The difference is around three percentage points which could be affected by the adjustments for inflation. The early 2012 and early 2011 real prices should therefore be seen as broadly equivalent to those during the Suez crisis when petrol was rationed and duty was increased by 40%.

The highest price on this series is the first one; April 1920. This was the first ex-pump price and it is highly likely that then, as now, new technology initially comes at a higher price. After this initial spike their wider adoption and the greater economies of large storage tanks will have helped to reduce prices.

The lowest real pump prices in recent times were in the late 1980s and early 1990s when low oil prices were combined with cuts in duty (for unleaded). Petrol was below 90 pence per litre (2017 prices) for much of the time from late 1989 to early 1991 apart from a brief spike when Iraq invaded Kuwait. There were broadly similar prices immediately before both the 'oil shocks' of the 1970s and official prices for rationed petrol after the end of second world war were lower still in real terms. The lowest prices for the whole period were just before duty was reintroduced in April 1928. Petrol was just over a shilling a gallon (around 63 pence per litre in 2017 prices).

Duty and VAT trends

The real level of duty and VAT is given in the second chart. This starts in 1928 when duty was reintroduced. There are eight major periods which can be distinguished:

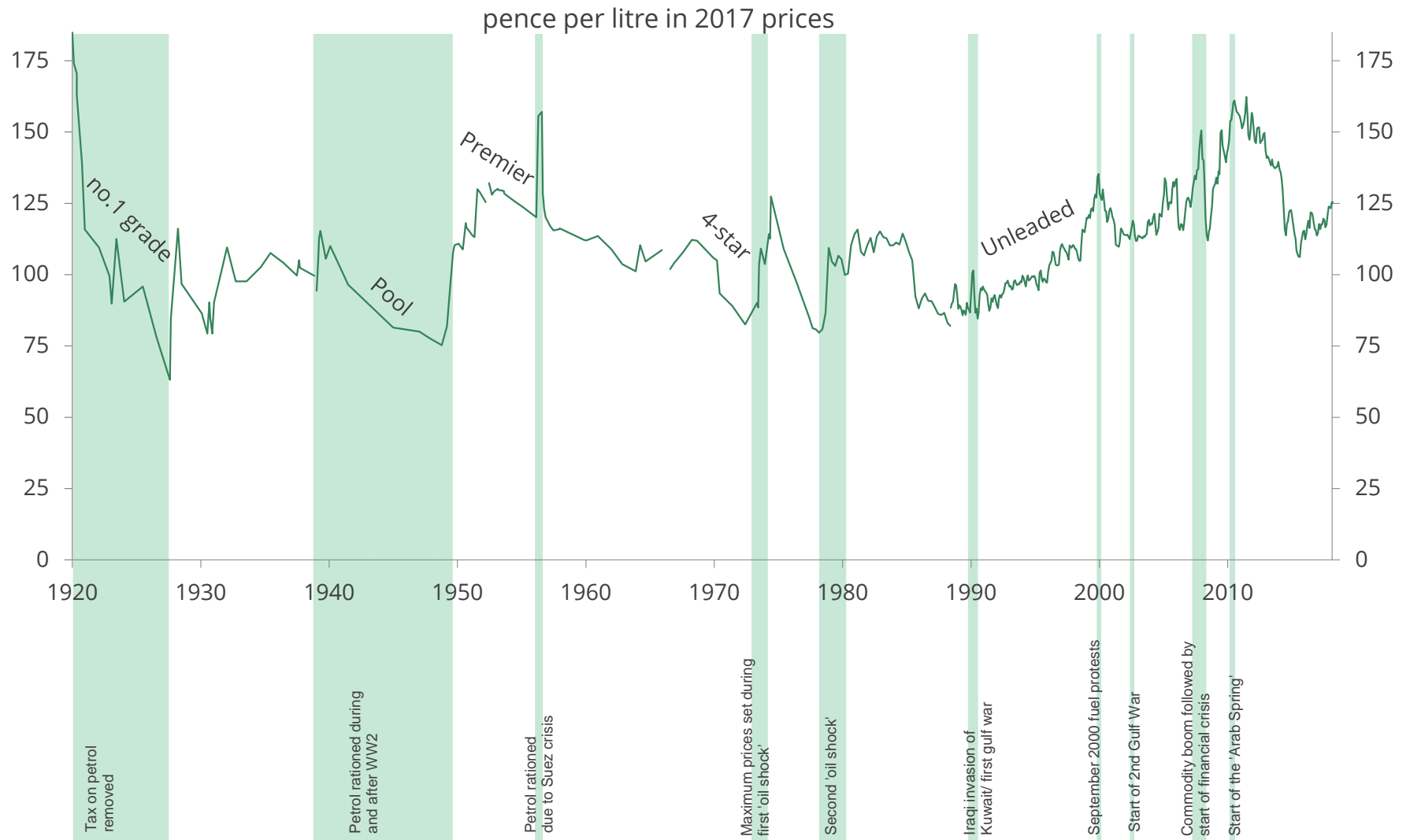
- Up to 1950 –generally low real levels of duty, the only exceptions are the increases in 1931 which saw duty double in less than a year. The real

20 Petrol and diesel prices

duty level fell considerably during most of the second world war and immediately afterwards

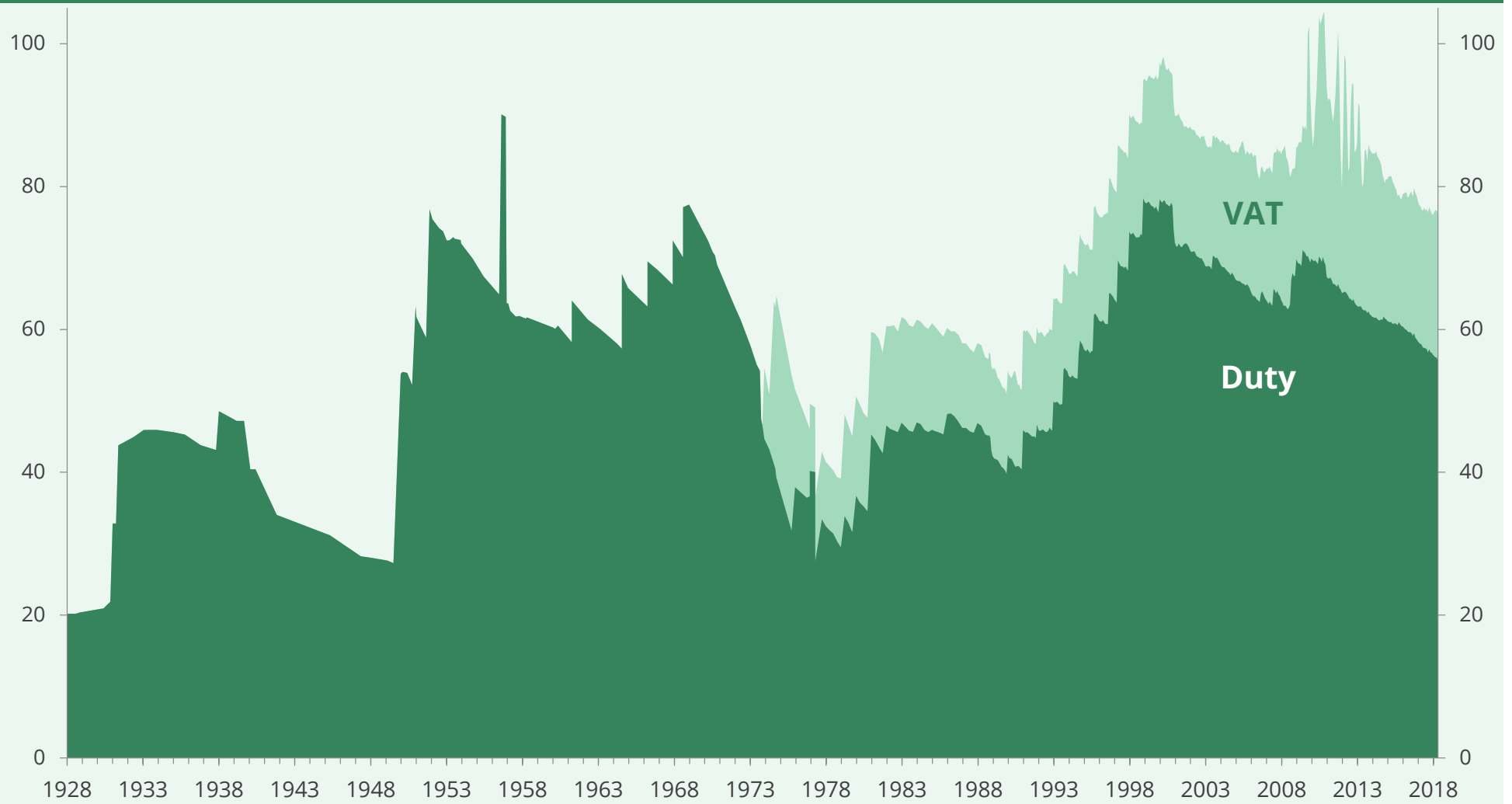
- 1950 to the late 1960s –early rapid increases in duty were maintained in real terms through much of this period. The short-lived sharp increase in duty during the Suez crisis is clear
- Late 1960s to 1974 –cash value of duty is held constant, real value falls by around 30%
- 1974 to 1989 –VAT introduced, duty (on its own) less than at any time since the 1940s. Combined value of duty and VAT increased rapidly jumps in 1974 and 1981.
- 1989 to 2000 –the impact of the road fuel duty escalator and, to a lesser extent, higher VAT and oil prices, means the total tax per litre increases by almost 90% in real terms
- 2000 to 2007 –falling real value due to cuts or freeze in duty.
- 2007 to 2011 –return of a duty escalator for the first years and an increase in duty and VAT in 2011.
- 2011 to present –duty frozen or cut and no further increases in VAT.

REAL PRICE OF PETROL AND MAJOR ASSOCIATED EVENTS



REAL LEVELS OF VAT AND DUTY ON PETROL

pence per litre 2017 prices



PETROL PRICES SINCE 1920

New pence per litre, earliest price in each year

	Retail price		Duty				Retail price		Duty		
	cash	2017	cash	2017	VAT rate		cash	2017	cash	2017	VAT rate
		prices		prices				prices		prices	
1920	4.7	184.9	0.5	21.5	0.0%	1970	7.2	94.4	4.9	64.5	0.0%
1921	3.8	162.9	0.0	0.0	0.0%	1971	7.5	93.4	4.9	61.8	0.0%
1922	2.2	109.6	0.0	0.0	0.0%	1972	7.7	88.9	4.9	57.2	0.0%
1923	1.9	99.6	0.0	0.0	0.0%	1973	7.7	82.5	4.9	53.1	0.0%
1924	2.1	112.5	0.0	0.0	0.0%	1974	9.2	88.5	4.9	47.4	0.0%
1925	..	..	0.0	0.0	0.0%	1975	16.0	127.4	4.9	39.5	25.0%
1926	1.8	95.9	0.0	0.0	0.0%	1976	16.8	109.0	4.9	32.0	12.5%
1927	1.4	78.0	0.0	0.0	0.0%	1977	17.5	97.1	6.6	36.7	12.5%
1928	1.1	63.1	0.0	0.0	0.0%	1978	16.8	84.7	6.6	33.3	12.5%
1929	1.7	96.8	0.4	20.4	0.0%	1979	17.5	80.9	6.6	30.5	12.5%
1930	1.5	86.4	0.4	21.0	0.0%	1980	26.4	103.0	8.1	31.6	15.0%
1931	1.3	79.3	0.4	21.9	0.0%	1981	29.1	100.3	10.0	34.5	15.0%
1932	1.8	109.6	0.7	44.9	0.0%	1982	35.0	108.0	13.8	42.6	15.0%
1933	1.6	97.6	0.7	45.9	0.0%	1983	36.7	107.8	15.5	45.7	15.0%
1934	1.6	97.6	0.7	45.9	0.0%	1984	40.4	112.8	16.3	45.6	15.0%
1935	1.6	102.6	0.7	45.6	0.0%	1985	41.5	110.6	17.2	45.7	15.0%
1936	1.7	107.6	0.7	45.3	0.0%	1986	41.6	105.0	17.9	45.2	15.0%
1937	1.7	104.0	0.7	43.8	0.0%	1987	38.5	93.4	19.4	47.0	15.0%
1938	1.7	99.7	0.7	43.1	0.0%	1988	36.7	86.3	19.4	45.5	15.0%
1939	1.7	99.6	0.8	47.2	0.0%	1989	37.2	82.1	20.4	45.1	15.0%
1940	2.2	105.5	0.8	40.4	0.0%	1990	38.4	87.5	17.7	40.4	15.0%
1941	..	..	..	..	0.0%	1991	42.1	88.2	19.5	40.8	15.0%
1942	2.3	96.4	0.8	34.0	0.0%	1992	43.4	87.3	22.4	45.0	17.5%
1943	..	..	..	..	0.0%	1993	47.1	93.1	23.4	46.3	17.5%
1944	..	..	..	..	0.0%	1994	50.8	98.0	28.3	54.6	17.5%
1945	2.2	81.4	0.8	31.2	0.0%	1995	53.4	99.7	31.3	58.5	17.5%
1946	..	..	..	..	0.0%	1996	55.9	101.5	34.3	62.2	17.5%
1947	2.3	80.0	0.8	28.2	0.0%	1997	61.1	107.8	36.9	65.0	17.5%
1948	2.3	69.3	0.8	24.9	0.0%	1998	63.1	107.8	40.3	68.8	17.5%
1949	2.2	67.0	0.8	24.6	0.0%	1999	62.9	104.8	44.0	73.4	17.5%
1950	3.3	95.8	1.6	47.9	0.0%	2000	75.4	123.3	47.2	77.2	17.5%
1951	3.4	96.9	1.6	46.5	0.0%	2001	76.9	122.4	47.8	76.2	17.5%
1952	4.7	115.8	2.7	68.4	0.0%	2002	69.9	109.9	45.8	72.0	17.5%
1953	4.9	117.7	2.7	65.7	0.0%	2003	75.0	114.5	45.8	70.0	17.5%
1954	4.9	115.2	2.7	64.6	0.0%	2004	76.2	113.4	47.1	70.1	17.5%
1955	4.9	112.1	2.7	62.3	0.0%	2005	79.0	113.9	47.1	67.9	17.5%
1956	5.1	107.0	2.7	57.8	0.0%	2006	88.8	125.2	47.1	66.4	17.5%
1957	6.7	139.9	3.8	80.0	0.0%	2007	86.9	117.5	48.4	65.3	17.5%
1958	5.1	102.9	2.7	55.1	0.0%	2008	103.7	134.7	50.4	65.4	17.5%
1959	..	..	..	..	0.0%	2009	86.3	112.0	52.4	67.9	15.0%
1960	5.1	100.3	2.7	53.7	0.0%	2010	119.8	149.8	56.2	70.3	17.5%
1961	5.4	101.1	3.0	57.0	0.0%	2011	134.7	160.3	59.0	70.1	20.0%
1962	5.4	96.9	3.0	54.7	0.0%	2012	141.7	162.3	58.0	66.3	20.0%
1963	5.2	92.3	3.0	53.5	0.0%	2013	136.8	151.7	58.0	64.2	20.0%
1964	5.3	90.1	3.0	51.7	0.0%	2014	130.2	140.4	58.0	62.5	20.0%
1965	5.7	93.2	3.6	58.6	0.0%	2015	108.4	115.7	58.0	61.8	20.0%
1966	6.1	96.7	3.9	61.9	0.0%	2016	101.7	107.1	58.0	61.0	20.0%
1967	5.9	90.8	3.9	60.9	0.0%	2017	118.7	121.8	58.0	59.5	20.0%
1968	6.4	96.1	4.3	64.5	0.0%	2018	121.2	119.6	58.0	57.2	20.0%
1969	7.1	99.7	4.9	69.0	0.0%						

Notes: Prices are the earliest given in each year. From 1973 these are January prices, earlier figures could be for any time during the year.
 Petrol was rationed from September 1939 to May 1950 and from December 1956 to May 1957 (Suez)
 Maximum prices were set by regulation between April and December 1974
 Higher rate VAT applied to petrol from 1975 to 1979
 Prices adjusted to 2010 using HC Library Paper 03/82 *Inflation: The value of the pound 1750-2002* and all-items RPI 1962; ONS series CHAW and CZBH

Grades: No. 1, 1920 to 1938
 "Pool" petrol, 1939 to 1952
 Premier, 1953 to 1966
 4 star 1967 to 1989
 Premier, 1953 to 1966
 Premium unleaded 1990 onwards

Sources: *UK petrol prices (1902-2002) and diesel prices (1889-2002)*, Energy Institute
Energy trends, Department of Energy, various editions
Quarterly energy prices, DBEIS Table 4.1.1

Appendix III -Prices across the EU from the mid-1990s

The *Social Indicators* article [Road fuel prices and taxes across the EU](#) looked at how prices and taxes have varied over the past decade or so. This appendix looks at earlier data on prices back to 1994 and updates the prices to September 2018. The earlier data is important because it covers the period immediately after the fuel duty was introduced. The UK's average prices of petrol and diesel became the most expensive in the EU during the late 1990s. Three charts are included over the following pages; petrol prices in each EU state, diesel prices in each EU state and the exchange rate.

The exchange rate is important, as the article explains, because of the size and the timing of the shifts over this period. For instance, in the mid to late 1990s when the fuel duty escalator increased real duty rates, the value of Sterling weakened and the two effects both made the relative price of UK road fuels even more expensive. From 2007 to 2009 the value of Sterling weakened sharply against the Euro and this more than outweighed real duty increases in the UK. The net result was that the UK's relative prices fell when expressed in Euros. The weaker Sterling since the Brexit vote in 2016 has had the same effect.

The most obvious shift in UK prices compared to the rest of the EU came between summer 1996 and autumn 2000. The UK's petrol prices went from the cheapest in the EU15 to the most expensive by a margin of 15-20%. UK diesel prices were the fourth most expensive in the EU15 at the start of this period, soon became the most expensive and were so by a margin of 40-45% at the end of this period.

[Road fuel prices and taxes across the EU](#) looks at later shifts in prices in more detail.

All the underlying data can be found at:

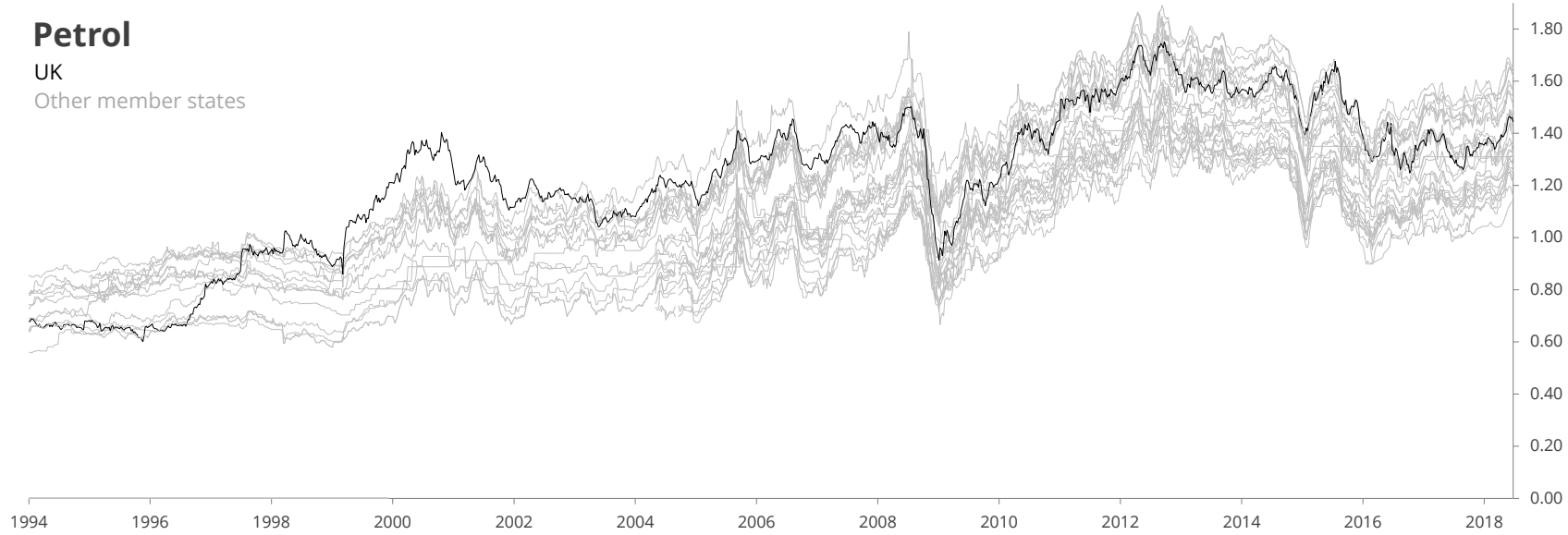
http://ec.europa.eu/energy/observatory/oil/bulletin_en.htm

DO WE HAVE THE MOST EXPENSIVE FUEL IN EUROPE?

Road fuel prices in EU member states, € /ECU per litre cash

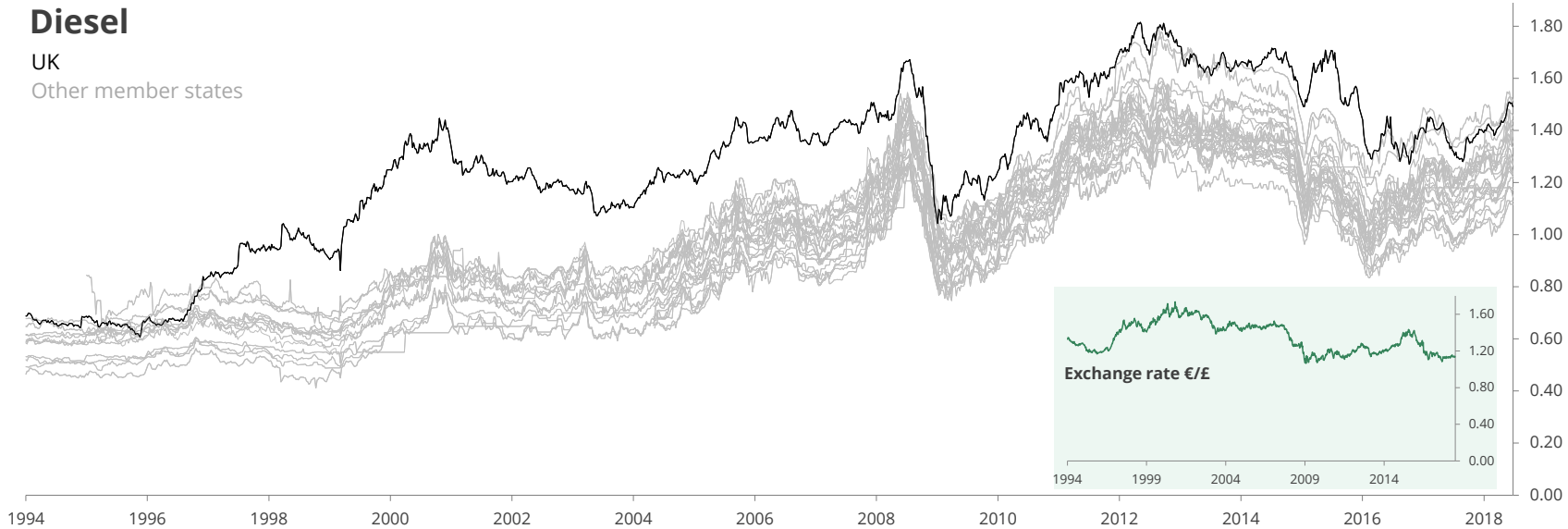
Petrol

UK
Other member states



Diesel

UK
Other member states



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